



PATENT APPLICATION

IN THE U.S. PATENT AND TRADEMARK OFFICE

"Express Mail" Mailing Label No.: EM 212 650 675 US

Date of Mailing: December 1, 2008

Applicants: Takashi DATE et al

Title: THERMALLY-SENSITIVE RECORDING MATERIAL

Serial No.: 10/551 675 Group: 1794

Confirmation No.: 5519

Filed: September 29, 2005 Examiner: Hess

International Application No.: PCT/JP2004/004667

International Filing Date : March 31, 2004

Atty. Docket No.: 4364.P0013US

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**EXPRESS MAILING CERTIFICATE**

Sir:

I hereby certify that the attached paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

FLYNN, THIEL, BOUTELL & TANIS, P.C.

By: Olivia Slepcer

Date: December 1, 2008

Documents attached: RCE Application  
Transmittal dated December 1, 2008  
including enclosures listed thereon

Telephone: (269) 381-1156

191.05/05



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**LETTER TO EXAMINER**

Sir:

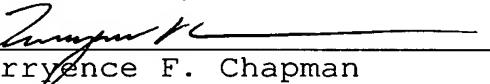
This request for continued examination is being presented in order to enter further evidence of the unobviousness of the presently claimed invention. That is, Applicants are enclosing herewith a Declaration Under 37 CFR 1.132 in which additional test data is presented which compares a thermally sensitive recording medium according to the present invention with additional comparative recording mediums prepared according to the disclosure of Hata et al.

In the outstanding Office Action, the Examiner states that the type of silica is not the only variable in Example 1 and Comparative Example 3 and that it appears that twice as much acrylic polymer/silica is employed in Example 1 as in Comparative Example 3. To address the Examiner's concerns, Applicants have prepared additional test data in which the spherical colloidal silica content and the acrylic polymer content are increased. As can be seen by the results in the enclosed Declaration, in revised Comparative Examples 3' and 3", in which the amount of silica and acrylic polymer was increased closer to that of Example 1 of the present application, the water resistance, printing aptitude and dregs on a head were inferior to that of the present invention.

Additionally, the color developing sensitivity was also inferior to that of the present invention.

Enclosed herewith for the Examiner's benefit is a document providing technical information about the colloidal silica composite synthetic resin emulsion used in Hata et al. As pointed out previously, where the silica and acrylic polymer are present as a composite or complex body particle type in which colloidal silica surrounding an acryl polymer, are strongly bonded by a polymerization bond, when it is used as a binder for a thermally sensitive layer, fusing or contacting of the acryl polymers to each other is hindered due to the presence of the colloidal silica and the film-forming ability is reduced. On the other hand, in the present invention where the acryl particles and colloidal silica are not added in the form of a composite, the colloidal silica combines with the acryl particles weakly by absorption and do not obstruct film formation between the acryl particles. This allows for the formation of a strong film so that the water-resistant property is improved along with the strength of the thermally sensitive recording layer and the printing aptitude. This is clearly unexpected in light of the prior art cited by the Examiner and establishes the patentability of the presently claimed invention thereover. Favorable consideration is respectfully solicited.

Respectfully submitted,

  
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Terryence F. Chapman

TFC/smd

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\*limited recognition number

Encl: Declaration Under 37 CFR 1.132  
Clariant Technical Brochure